

Eureka Math *A Story of Units*

Third Grade – Module 2

2015-2016

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Materials based on Eureka Math Version 3.

Module Assessment Overview

Purpose of Assessments

Mid-Module Assessment: These tasks address approximately the **first half** of the module’s learning objectives, and provide important information for instruction and for grading.

End-of-Module Assessment: These tasks are based on all standards addressed in order to gauge students’ full range of understanding of the **module as a whole**. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

Administration of Assessments

- Mid- and End-of-Module Assessments are designed to be completed in approximately one class period. However, The tests can be given over multiple days as needed.
- Assessments are designed to be completed independently by students, without assistance.
- These tasks should not be preceded by review of similar problems.

Grading Guidance

The grading scale on Elementary Report Cards has been changed for 2015-2016 and beyond. Please note that **4 now indicates advanced understanding of grade level standards expected at this time of year.**

4 – Advanced: Student demonstrates advanced understanding of grade level standards expected at this time of year.

3 – Proficient: Student demonstrates proficiency with grade level standards expected at this time of year.

2 – Basic: Student demonstrates basic understanding of grade level standards expected at this time of year. Student needs additional support and practice.

1 – Below Basic: Student demonstrates minimal understanding of grade level standards expected at this time of year. Student needs significant support and practice.

Rubrics and Checklists have been updated to reflect this change. Rubrics have been further modified from Eureka Math originals for clarity, accuracy, and alignment to Bethel’s grade scale.

General Grading Guidance:

- On the report card, student learning is reported by CCSS domain. The Third Grade CCSS domains are: Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations – Fractions, Measurement and Data, and Geometry.
- Grades in each domain should be based on multiple sources of evidence, including the Mid- and End-of-Module Assessments. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

Module 2 Grading Guidance:

- Standards 3.NBT.1, 3.NBT.2, 3.MD.1, and 3.MD.2 are only taught & assessed in Module 2. (See checklist on page 3.)
- Items 2, 4, and 5 on the Mid-Module Assessment and items 1, 3, and 5 on the End-of-Module Assessment will be scored for both MD and NBT. This means the items will be scored twice, once in each domain. The goal is to allow students to demonstrate proficiency with each domain.

Updates

See “Grading Guidance” for updates on Bethel’s grade scale and changes to Eureka Math Assessments.

Grade 3 Common Core State Standards Checklist by Module

This grade-level chart provides an at-a-glance view of when each standard is addressed. Shaded boxes indicate standards that are assessed in Module 2. Some standards may be assessed again in future modules. *Note that standards included in major clusters are followed by an asterisk (*)*. Please refer to the Curriculum Overview of A Story of Units for a curriculum map and detailed grade-level descriptions including a summary of the year, a rationale of the module sequence, and a standards alignment chart.

CCSS		GRADE 3 MODULES						
		1	2	3	4	5	6	7
3.OA	1*	X						
	2*	X						
	3*	X		X				
	4*	X		X				
	5*	X		X				
	6*	X						
	7*	X	X	X				
	8*	X		X				
	9*			X				
3.NBT	1		X					
	2		X					
	3			X				
3.NF	1*					X		
	2a*					X		
	2b*					X		
	3a*					X		
	3b*					X		
	3c*					X		
	3d*					X		
3.MD	1*		X					
	2*		X					
	3						X	
	4						X	X
	5a*				X			
	5b*				X			
	6*				X			
	7a*				X			
	7b*				X			
	7c*				X			
	7d*				X			
	8							X
3.G	1							X
	2					X		

Third Grade Module 2: Mid-Module Assessment Task Score Sheet

A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student **CAN** do now, and what they need to work on next.

Score Key: A Progression of Learning			
Little or no evidence of reasoning with an incorrect answer.	Evidence of some reasoning with an incorrect answer.	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.	Evidence of solid reasoning with a correct answer.
(1 Point)	(2 Points)	(3 Points)	(4 Points)

Module 2: Mid-Module Assessment					
Question	Domain		Standards		
	Number and Operations in Base Ten	Measurement and Data	3.NBT.2	3.MD.1	3.MD.2
1		1 2 3 4		X	
2	1 2 3 4	1 2 3 4	X		X
3		1 2 3 4			X
4	1 2 3 4	1 2 3 4	X		X
5	1 2 3 4	1 2 3 4	X	X	X

Domain Score	Number and Operations in Base Ten		Measurement and Data	
Total Points				
Level	4	11-12 pts.	4	18-20 pts.
	3	9-10 pts.	3	13-17 pts.
	2	5-8 pts.	2	8-12 pts.
	1	3-4 pts.	1	5-7 pts.

Note: For more information about standards assessed in this module, see back of this score sheet.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned some points. This translates to a score of 1 in the grade book.

Third Grade Module 2: Mid-Module Assessment Task Score Sheet (continued)

Mid-Module Assessment Task (Topics A–B) Clusters and Standards Addressed	
Use place value understanding and properties of operations to perform multi-digit arithmetic. (A range of algorithms may be used.)	
3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	
3.MD.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
3.MD.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Excludes compound units such as cm^3 and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Excludes multiplicative comparison problems, i.e., problems involving notions of “times as many”; see Glossary, Table 2.)

Third Grade Module 2: Mid-Module Assessment Task Rubric

A Progression of Learning				
Assessment Task Item	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
1 3.MD.1	Student correctly answers 0 of the four parts.	Student correctly answers 1-2 of the 4 parts. Note: allow +/- 1 min when reading the clocks on Parts a & c, and allow correct calculations based on those times in parts b & d.	Student correctly answers 3 of the four parts. Note: allow +/- 1 min when reading the clocks on Parts a & c, and allow correct calculations based on those times in parts b & d.	Student correctly answers 4 of the four parts. (See below.)
	a. (1) Reads 2:07 on the clock. b. (2) Draws on the number line to show that she arrives at the market at 2:24. c. (3) Reads 2:53 on the clock. d. (4) Calculates 29 minutes.			
2* 3.NBT.2 *See below for MD scoring of this item.	Incorrect answer. <ul style="list-style-type: none"> Does not find total weight. 	Student: <ul style="list-style-type: none"> Adds $223 + 355$ (or numbers reflecting incorrect reading of scales). Makes multiple calculation errors when solving. 	Student: <ul style="list-style-type: none"> Adds correctly based on incorrect reading of the scales. 	Student correctly answers the question: <ul style="list-style-type: none"> Adds $223 + 355$. Solves with 578 g.
2* 3.MD.2 *See above for NBT scoring of this item.	Incorrect answer. <ul style="list-style-type: none"> Misreads both scales by more than 2 grams. 	Student: <ul style="list-style-type: none"> Misreads both scales (+/- 2 grams) Finds total based on incorrect scale reading. (Allow multiple computation errors.) 	Student: <ul style="list-style-type: none"> Misreads one scale (+/- 2 grams). Finds total based on incorrect scale reading. (Allow 1 computation error) 	Student correctly answers the question: <ul style="list-style-type: none"> Accurately reads scales, almonds = 223 g, raisins = 355 g. Solves with 578 g.
3 3.MD.2	Student correctly answers 0 of the three parts.	Student correctly answers 1 of the three parts.	Student correctly answers 2 of the three parts.	Student correctly answers 3 of the three parts. (See below.)
	<ul style="list-style-type: none"> (1) Accurately reads bottle. (2) Draws and labels tape diagram. (3) Calculates 9 bottles. 			

Assessment Recommendations for Eureka Math *A Story of Units*

A Progression of Learning				
Assessment Task Item	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
4 * 3.NBT.2 See below for MD scoring of this item.	Incorrect answer. Attempt shows the student may not understand the meaning of the question.	Student: <ul style="list-style-type: none"> Writes a number sentence OR <ul style="list-style-type: none"> Calculates weight of the peas (based on correct or incorrect reading of scale) with calculation errors. 	Student: <ul style="list-style-type: none"> Writes a number sentence based on incorrect reading of the scale/item. Calculates weight of the peas (based on correct or incorrect reading of scale). 	Student correctly: <ul style="list-style-type: none"> Writes a number sentence ($968 - 744 = 224$) Calculates the weight of the peas, 224 g.
4 * 3.MD.2 See above for NBT scoring of this item.	Incorrect answer. Attempt shows the student may not understand the meaning of the question.	Incorrect answer, reasonable attempt. Student: <ul style="list-style-type: none"> Misreads scale. Attempts to solve. 	<ul style="list-style-type: none"> Accurately reads scale at 744 g. One calculation error resulting in incorrect overall weight. 	<ul style="list-style-type: none"> Accurately reads scale at 744 g. Calculates the weight of the peas, 224 g.
5 b, c * 3.NBT.2 See below for MD scoring of this item.	Incorrect answer. Attempt shows the student may not understand the meaning of the question.	Student correctly answers b OR c .	Student answers parts b & c of the question: b. Correct estimate based on incorrect weight. c. Correct estimate based on incorrect weight.	Student correctly answers parts b & c of the question: b. Estimates 21 kg. c. Estimates 12 kg. Possible equation: $21 \text{ kg} - 9 \text{ kg} = 12 \text{ kg}$.
5 a, d* 3.MD.1 3.MD.2 See above for NBT scoring of this item.	Incorrect answer. Attempt shows the student may not understand the meaning of the question.	Student correctly answers a OR d .	Student: a. Accurately reads scale at 3 kg. d. One calculation error results in incorrect time.	Student correctly answers parts a & d of the question: a. Accurately reads scale at 3 kg. d. Calculates 46 minutes.

Third Grade Module 2: Mid-Module Assessment Task Key

Name Gina

Date _____

1. Fatima runs errands.

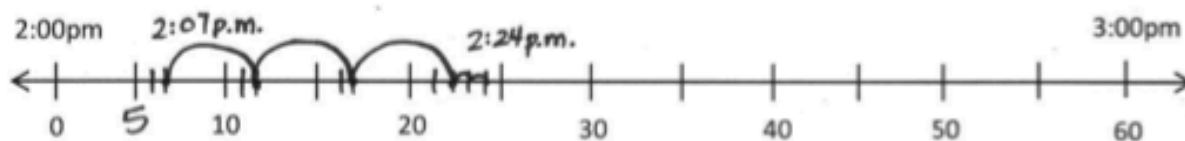
- a. The clock to the right shows what time she leaves home. What time does she leave?

Fatima leaves at 2:07p.m.

Fatima leaves home.



- b. It takes Fatima 17 minutes to go from her home to the market. Use the number line below to show what time she gets to the market.



$$7 + 17 = 24$$

She gets to the market at 2:24p.m.

- c. The clock to the right shows what time Fatima leaves the market. What time does she leave the market?

Fatima leaves the market at 2:53p.m.

Fatima leaves the market.



- d. How long does Fatima spend at the market?

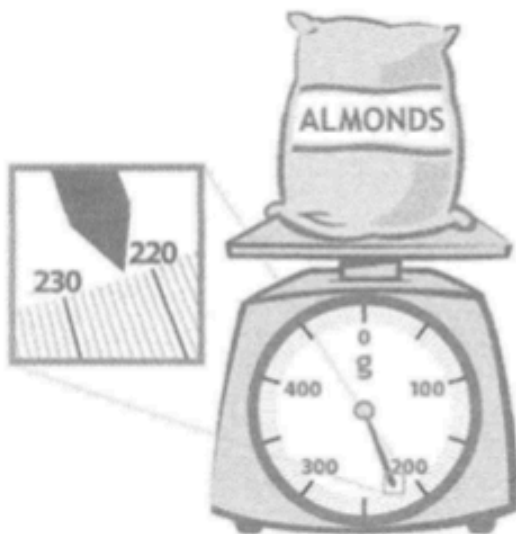
$$53 - 24 = 50 - 20 - 1$$

$$\begin{array}{r} 50 \\ \text{1} \diagdown \text{1} \diagup \\ 30 \end{array} \quad \begin{array}{r} 20 \\ \text{1} \diagdown \text{1} \diagup \\ 1 \end{array} = 29$$

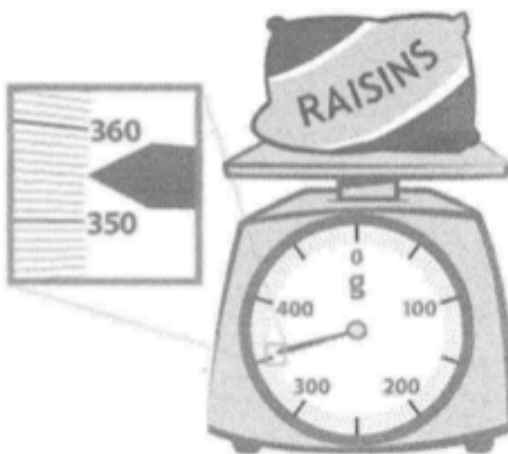
Fatima is at the store 29 minutes.

Third Grade Module 2: Mid-Module Assessment Task Key (continued)

2. At the market, Fatima uses a scale to weigh a bag of almonds and a bag of raisins, shown below. What is the total weight of the almonds and raisins?



Almonds = 223 g



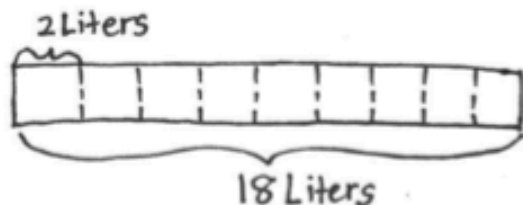
Raisins = 355 g

$$\begin{array}{r} 223 \text{ g} \\ + 355 \text{ g} \\ \hline 578 \text{ g} \end{array}$$

The total weight of the almonds and the raisins is 578 grams.

Third Grade Module 2: Mid-Module Assessment Task Key (continued)

3. The amount of juice in 1 bottle is shown to the right. Fatima needs 18 liters for a party. Draw and label a tape diagram to find how many bottles of juice she should buy.



$$18 \div 2 = 9$$

Fatima needs to buy 9 bottles of juice.



4. Altogether Fatima's lettuce, broccoli and peas weigh 968g. The total weight of her lettuce and broccoli is shown to the right. Write and solve a number sentence to find how much the peas weigh.

$$\begin{array}{r} 968\text{g} \\ - 744\text{g} \\ \hline 224\text{g} \end{array}$$

Fatima's peas weigh 224grams.

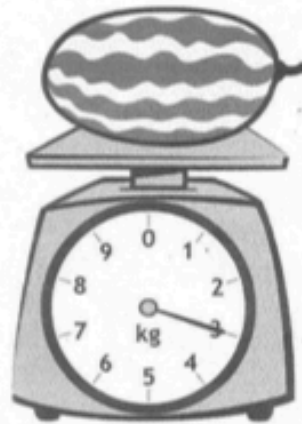


Third Grade Module 2: Mid-Module Assessment Task Key (continued)

5. Fatima weighs a watermelon, shown to the right.

a. How much does the watermelon weigh?

The watermelon weighs 3 kg.



- b. Leaving the store Fatima thinks, "Each bag of groceries seems as heavy as a watermelon!" Use Fatima's idea about the weight of the watermelon to estimate the total weight of 7 bags.

$$7 \times 3 \text{ kg} = 21 \text{ kg}$$

She estimates the bags weigh about 21 kg altogether.

- c. The grocer helps carry about 9 kilograms. Fatima carries the rest. Estimate how many kilograms of groceries Fatima carries.

$$21 \text{ kg} - 9 \text{ kg} = 12 \text{ kg}$$

11 10
 $10 - 9 = 1$
 $11 + 1 = 12$

Fatima carries about 12 kg of groceries.

- d. It takes Fatima 12 minutes to drive to the bank after she leaves the store, then 34 more minutes to drive home. How many minutes does Fatima drive after she leaves the store?

$$12 \text{ minutes} + 34 \text{ minutes} = 46 \text{ minutes}$$

Fatima drives for 46 minutes.

Third Grade Module 2: End-of-Module Assessment Task Score Sheet

A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student **CAN** do now, and what they need to work on next.

Note: Problem 5 is scored differently since it is a timed assessment of fluency. Students complete as many problems as they can in 100 seconds. Although this page of the assessment contains 40 questions, answering 30 correct within the time limit is considered passing.

Score Key: A Progression of Learning

Little or no evidence of reasoning with an incorrect answer. (1 Point)	Evidence of some reasoning with an incorrect answer. (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	Evidence of solid reasoning with a correct answer. (4 Points)
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	Module 2: End-of-Module Assessment								
	Domain				Standards				
Question	Number and Operations in Base Ten	Measurement and Data	Operations and Algebraic Thinking	3.NBT.1	3.NBT.2	3.MD.1	3.MD.2	3.OA.7	
1	1 2 3 4	1 2 3 4		X			X		
2	1 2 3 4				X				
3	1 2 3 4	1 2 3 4		X	X	X			
4	1 2 3 4			X	X				
5	1 2 3 4	1 2 3 4		X	X	X	X		
6			1 2 3 4					X	

Domain Score	Number and Operations in Base Ten		Measurement and Data		Operations and Algebraic Thinking	
Total Points						
Level	4	18-20 pts.	4	11-12 pts.	4	4 pts.
	3	13-17 pts.	3	8-10 pts.	3	3 pts.
	2	8-12 pts.	2	5-7 pts.	2	2 pts.
	1	5-7 pts.	1	3-4 pts.	1	1 pt.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned some points. This translates to a score of 1 in the grade book.

Third Grade Module 2: End-of-Module Assessment Task Score Sheet (continued)

End-of-Module Assessment Task (Topics A–F) Clusters and Standards Addressed	
Use place value understanding and properties of operations to perform multi-digit arithmetic. (A range of algorithms may be used.)	
3.NBT.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	
3.MD.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
3.MD.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Excludes compound units such as cm^3 and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Excludes multiplicative comparison problems, i.e., problems involving notions of “times as many”; see Glossary, Table 2.)
Multiply and divide within 100.	
3.OA.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Assessment Recommendations for Eureka Math *A Story of Units*
Third Grade Module 2: End-of-Module Assessment Task Rubric

A Progression of Learning				
Assessment Task Item	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
1 3.MD.2 See below for NBT scoring for this item.	Student is unable to answer any question correctly.	Incorrect answer, reasonable attempt.	Student accurately reads scale as 127, but omits unit (kg).	Student accurately reads the scale as 127 kg.
1 3.NBT.1 See above for MD scoring for this item.	Student is unable to answer any question correctly.	Incorrect answer, reasonable attempt.	Student: <ul style="list-style-type: none"> Draws a number line to estimate OR <ul style="list-style-type: none"> Estimates 100 kg. 	Student: <ul style="list-style-type: none"> Draws a number line to estimate Estimates 100 kg.
2 3.NBT.2	Student is unable to answer any question correctly.	Student writes 205 g – 186 g, but makes a computation error when solving.	Student finds difference based on incorrect weights. (Copying error)	Student correctly: <ul style="list-style-type: none"> Writes and solves 205 g – 186 g = 19 g.
3 3.NBT.1 3.NBT.2 See below for MD scoring for this item.	Student is unable to answer questions correctly.	Student attempts to answer the questions.	Student rounds correctly in a or b .	Student <u>rounds correctly</u> in a & b correctly: <ul style="list-style-type: none"> a) Rounds 10:19 to 10:20. b) Rounds 10:53 to 10:50. (Allow credit for correct rounding even if time is incorrect.)
3 3.MD.1 See above for NBT scoring for this item.	Student correctly answers 0 of the three parts. a) (1) 10:19 b) (2) 10:53 c) (3) Estimates about 30 minutes before the plane leaves (possible equation 50 minutes – 20 minutes = 30 minutes).	Student answers 1 of the three parts. Note: Allow +/- 1 minute for parts a & b.	Student answers 2 of the three parts. Note: Allow +/- 1 minute for parts a & b.	Student correctly answers 3 of the three parts. (See below.)

Assessment Recommendations for Eureka Math *A Story of Units*

A Progression of Learning				
Assessment Task Item	STEP 1 Little or no evidence of reasoning with an incorrect answer. (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
4 3.NBT.1 3.NBT.2	Student correctly answers 0 of the five parts.	Student correctly answers 1-2 of 5 parts.	Student correctly answers 3-4 out of five parts.	Student answers 5 out of five parts correctly. (See below.)
	a. (1) Rounds to estimate 260 liters b. (2) Estimates 520 liters. c. (3) Precisely calculates 512 liters d. (4) Draws and labels a tape diagram to show the difference; (5) calculates 8 liters			
5 3.NBT.1 3.NBT.2 See below for MD scoring for this item.	Student correctly answers 0-1 of the six parts. Note: for Parts b and d , allow for correct calculations based on incorrect measurements.	Student correctly answers 2-3 of the six parts. Note: for Parts b and d , allow for correct calculations based on incorrect measurements.	Student correctly answers 4-5 of the six parts. Note: for Parts b and d , allow for correct calculations based on incorrect measurements.	Student correctly answers 6 of the six parts. (See below.)
	a. (1) Rounds to estimate 70kg; (2) Estimates $70 + 70 + 70 = 210$ kg (3) adds $65 + 65 + 65 = 195$ kg b. (4) Writes and solves $200 - 195 = 5$ kg c. (5) Answers 43 minutes d. (6) Answers 28 liters			
5 3.MD.1 3.MD.2 See above for NBT scoring for this item.	Student correctly answers 0-1 of the six parts. *Note: For computation, allow one computation error <i>if</i> based on correct measurements.	Student correctly answers 2-3 of the six parts. *Note: For computation, allow one computation error <i>if</i> based on correct measurements.	Student correctly answers 4-5 of the six parts. *Note: For computation, allow one computation error <i>if</i> based on correct measurements.	Student correctly answers 6 of the six parts. (See below.)
	a. (1) Rounds to estimate 70kg; (2) Estimates $70 + 70 + 70 = 210$ kg* (3) adds $65 + 65 + 65 = 195$ kg* b. (4) Writes and solves $200 - 195 = 5$ kg* c. (5) Answers 43 minutes* d. (6) Answers 28 liters*			
6 3.OA.7	Use the attached sample work to correct students' answers on the fluency page of the assessment. 4: $36 - 40$ correct 3: $30 - 35$ correct 2: $15 - 29$ correct 1: $0 - 14$ correct Students who answer 30 or more questions correctly within the allotted time "pass" this portion of the assessment. They are ready to move on to the more complicated fluency page given with the Module 3 End-of-Module Assessment. For students who do not pass, you may choose to re-administer this fluency page with each subsequent end-of-module assessment until they are successful. Analyze the mistakes students make on this assessment to further guide your fluency instruction. Possible questions to ask as you analyze are: <ul style="list-style-type: none"> Did this student struggle with multiplication, division, or both? Did this student struggle with a particular factor? Did the student consistently miss problems with the unknown in a particular position? 			

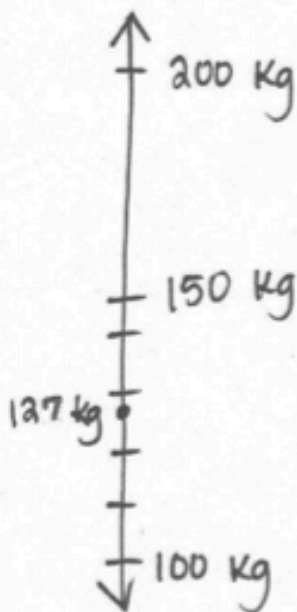
Third Grade Module 2: End-of-Module Assessment Task Key

Name

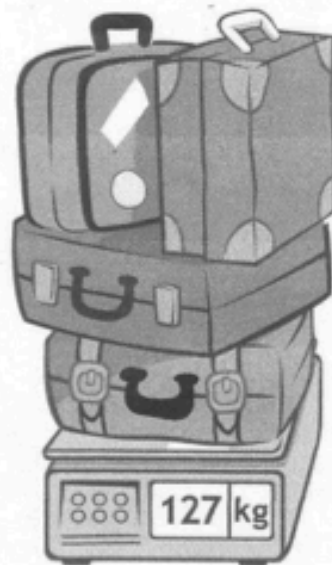
Gina

Date

1. Paul is moving to Australia. The total weight of his 4 suitcases is shown on the scale to the right. On a number line, round the total weight to the nearest 100 kilograms.



Rounded to the nearest 100 kg, his suitcases weighs 100 kg.



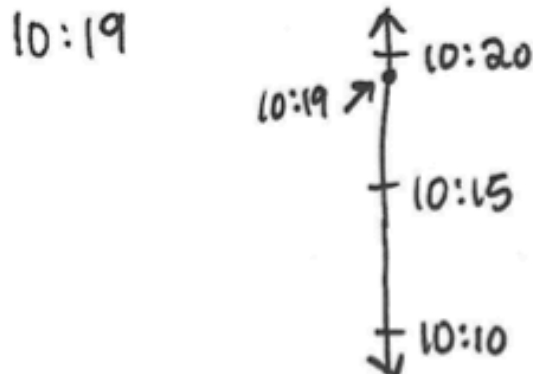
2. Paul buys snacks for his flight. He compares cashews with yogurt raisins. The cashews weigh 205 grams, and the yogurt raisins weigh 186 grams. What is the difference between the weight of the cashews and yogurt raisins?

$$\begin{array}{r} 1915 \\ 205 \text{ g} \\ - 186 \text{ g} \\ \hline 019 \text{ g} \end{array}$$

The difference in weight is 19 grams.

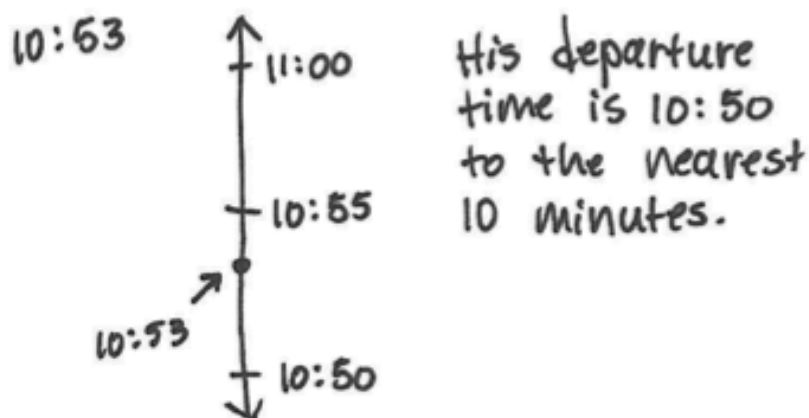
Third Grade Module 2: End-of-Module Assessment Task Key (continued)

3. The clock to the right shows what time it is now.
a. Estimate the time to the nearest 10 minutes.



It is 10:20 to the nearest 10 minutes.

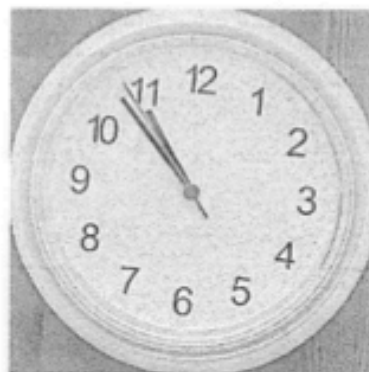
- b. The clock to the right show Paul's departure time. Estimate the time to the nearest 10 minutes.



Time right now:



Departure time:



- c. Use your answers from Parts (a) and (b) to estimate how long Paul has before his flight leaves.

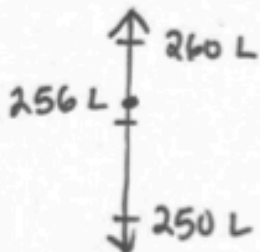
$$50 \text{ minutes} - 20 \text{ minutes} = 30 \text{ minutes}$$

Paul has about 30 minutes before his flight leaves.

Third Grade Module 2: End-of-Module Assessment Task Key (continued)

4. A large airplane uses about 256 liters of fuel every minute.

a. Round to the nearest ten liters to estimate how many liters of fuel get used every minute.



About 260 L of fuel are used every minute.

b. Use your estimate to find about how many liters of fuel are used every 2 minutes.

$$\begin{array}{r} 260 \text{ L} \\ + 260 \text{ L} \\ \hline 520 \text{ L} \end{array}$$

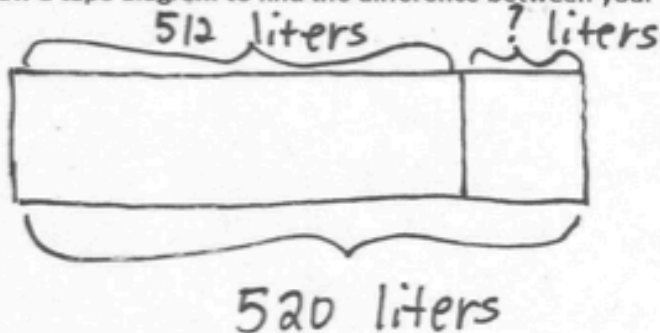
About 520 L of fuel are used every 2 minutes.

c. Calculate precisely how many liters of fuel are used every 2 minutes.

$$\begin{array}{r} 256 \text{ L} \\ + 256 \text{ L} \\ \hline 512 \text{ L} \end{array}$$

Exactly 512 L of fuel are used in 2 minutes.

d. Draw a tape diagram to find the difference between your estimate and precise calculation.



$$\begin{array}{r} 10 \\ 520 \text{ L} \\ - 512 \text{ L} \\ \hline 008 \text{ L} \end{array}$$

The difference between the calculation and the estimate is 8 liters.

Third Grade Module 2: End-of-Module Assessment Task Key (continued)

5. Baggage handlers lift heavy luggage into the plane. The weight of one bag is shown on the scale to the right.

- a. One baggage handler lifts 3 bags of the same weight. Round to estimate the total weight he lifts. Then, calculate exactly.

65 kg is about 70 kg.

$$\begin{array}{r} 14 \angle 70 \\ 21 \angle 70 \\ \hline 210 \end{array}$$

He lifts about
210 kg total.

$$\begin{array}{r} 12 \angle 65 \\ 18 \angle 65 \\ \hline 195 \end{array}$$

He lifts
exactly
195 kg.



- b. Another baggage handler lifts luggage that weighs a total of 200 kilograms. Write and solve an equation to show how much more weight he lifts than the first handler in Part (a).

$$\begin{array}{r} 1910 \\ 200 \\ - 195 \\ \hline 005 \end{array}$$

He lifts 5 kg more than the
first handler.

- c. The baggage handlers load luggage for 18 minutes. If they start at 10:25 p.m., what time do they finish?

$$\begin{array}{r} 25 \\ + 18 \\ \hline 43 \end{array}$$

They finish at 10:43 p.m.

- d. One baggage handler drinks the amount of water shown below every day at work. How many liters of water does he drink during all 7 days of the week?

$$7 \times 4 \text{ L} = 28 \text{ L}$$

He drinks 28 L of water
in 7 days.

4, 8, 12, 16, 20, 24, 28



Third Grade Module 2: End-of-Module Assessment Task Key (continued)

6. Complete as many problems as you can in 100 seconds. The teacher will time you and tell you when to stop.

$3 \times 1 = \underline{3} \quad 2 \div 1 = \underline{2} \quad \underline{2} = 20 \div 10 \quad 2 \times 2 = \underline{4} \quad 5 \times \underline{2} = 10$

$\underline{2} \times 2 = 4 \quad 10 \div 5 = \underline{2} \quad 10 \times \underline{3} = 30 \quad \underline{6} = 2 \times 3 \quad \underline{3} = 12 \div 4$

$4 \times 3 = \underline{12} \quad 15 \div 5 = \underline{3} \quad \underline{4} \times 4 = 16 \quad \underline{4} = 40 \div 10 \quad 2 \times 4 = \underline{8}$

$3 \times 4 = \underline{12} \quad 4 \times \underline{3} = 12 \quad 20 \div 4 = \underline{5} \quad \underline{50} = 10 \times 5 \quad \underline{5} \times 5 = 25$

$4 \times \underline{5} = 20 \quad \underline{5} = 10 \div 2 \quad \underline{6} \times 3 = 18 \quad 10 \times 6 = \underline{60} \quad 30 \div 5 = \underline{6}$

$3 \times 6 = \underline{18} \quad \underline{6} = 24 \div 4 \quad 5 \times \underline{7} = 35 \quad \underline{70} = 10 \times 7 \quad 14 \div 2 = \underline{7}$

$2 \times 7 = \underline{14} \quad \underline{7} \times 4 = 28 \quad \underline{8} = 40 \div 5 \quad 10 \times \underline{8} = 80 \quad \underline{24} = 3 \times 8$

$24 \div 3 = \underline{8} \quad 80 \div 10 = \underline{8} \quad 36 \div 4 = \underline{9} \quad 5 \times 9 = \underline{45} \quad 2 \times \underline{9} = 18$